

Tennessee Department of Education Office of Coordinated School Health Annual School Health Services Data and Compliance Report 2011-2012 School Year



**SCHOOL HEALTH, WELLNESS,
MEDICATIONS and PROCEDURES**

TENNESSEE PUBLIC SCHOOLS



Tennessee Department of Education

Office of Coordinated School Health

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Annual School Health Services Data and Compliance Report 2011-2012 School Year

The Office of Coordinated School Health surveys public and private school systems annually to monitor compliance with state school health laws and to assess the scope of school health services provided to Tennessee public school students. All 136 local education agencies (LEAs) and three out of the four state special schools returned their survey for inclusion in this report (N=139).

Wellness issues of students are supervised by licensed school nurses with the goals of appraising, protecting, and promoting health needs. Services provided by the school nurse include, but are not limited to assessment, planning, coordination and direct care to all students including those with special needs or conditions. Also, the school nurse has the responsibility of collaborating with and/or referring students to community health care professionals to ensure:

- early intervention
- access and referral to primary care services
- foster appropriate use of primary health care services
- prevent and control communicable diseases and other health problems
- provide emergency care for students and staff illness and injury
- provide daily and continuous services for children with special health care needs
- promote and provide optimum sanitary conditions for a safe school facility and school environment
- provide educational and counseling opportunities for promoting and maintaining individual, family and community health

In addition, many services are provided by licensed and qualified professionals such as physicians, psychiatrists, psychologist, dentists, health educators, registered dietitians, school counselors and allied health professionals (i.e. speech therapists, occupational therapists, and physical therapists).

Recommendations

An emerging concern based on health services trend data is ensuring students with asthma are receiving the support they need to effectively manage their medical condition so students stay safe and can attend school ready to learn. Specific areas of concern include the availability of school nurses to respond to an emergency involving an asthmatic student, the development of individual and school level action plans for all diagnosed students and the provision of asthma education to school staff and students. Following are several facts to support this recommendation:

- During the 2011-2012 school year, there were **63,411** students in Tennessee schools with an asthma diagnosis.
- The number of students diagnosed with asthma increased by **64%** between 2004-2005 and 2011-2012.

- During the 2011-2012 school year, **14,985** students received an emergency procedure in Tennessee schools. Almost all of the emergency procedures were provided to students with asthma (**94%**).
- The number of emergency procedures performed by licensed health care providers in schools **increased 58%** from 2008-2009 to 2011-2012. The only type of procedure that increased during this two year period was asthma (**119%**).
- School health services directors were asked if there was a nurse present all day in schools where a student might need **asthma** medication administered during an emergency situation. **Forty-four percent (62 school systems/special schools)** indicated “yes” while **56% (74 school systems/special schools)** reported “no”.
- Of the **63,411** students indentified as having asthma, only **35,909** students (**57%** of all asthmatic students) had an individual school asthma action plan in place.
- Also, only **55** school districts/special schools have adopted a school-wide asthma action plan for all schools (**40%** of all school districts).
- Asthma education was provided to **17,279** school personnel and **12,616** students with asthma during the 2011-2012 school year. This represents only **20%** of all Tennessee students diagnosed with asthma.

2011-2012 SCHOOL HEALTH SERVICES HIGHLIGHTS

Student Diagnoses

During the 2011-2012 school year, **188,975** students in Tennessee public schools had a chronic illness or disability diagnosis. This represents **19%** of all Tennessee public school students statewide. Of those students with a diagnosis, the most common diagnoses were asthma (**33%**), ADHD/ADD (**21%**), other (cerebral palsy, sickle cell, cystic fibrosis) (**14%**) and severe allergy (**9%**).

The total number of Tennessee students with chronic illnesses or disability diagnoses increased by **76%** between 2004-2005 and 2011-2012. The number of ADHD/ADD diagnoses increased by **100%** in eight years. The number of students diagnosed with asthma increased by **64%** and the number of students diagnosed with diabetes increased by **55%** during the same time period.

Health Services Provided in Tennessee Schools

The most common types of health services provided by licensed health care providers in Tennessee schools include training and supervision of non-medical personnel (**77%** of all schools), care of ill/injured students (**75%** of all schools), care of ill/injured staff (**75%** of all schools) and health counseling referral (**74%** of all schools). The most common types of health services provided by unlicensed health care providers in Tennessee schools include body mass index (BMI) screening (**57%** of all schools), vision screening (**55%** of all schools) and hearing screening (**55%** of all schools).

Medications

During the 2011-2012 school year, **23,089** students self-administered medications while under the supervision of unlicensed school personnel. The most common medications self-administered by students were inhalants (**39%**), other/non- specified drugs (**24%**), and topical (**17%**).

In 2011-2012, **91,671** students received medication administered by a licensed health care professional. The most common medications administered in schools by licensed health care professionals were: topical (**42%**), other (**26%**), and aerosol (**16%**).

The total number of students receiving medication administered by licensed health care professionals increased by **37%** from 2004-2005 to 2011-2012. The largest increase in medications was aerosol (**317%**), insulin (**165%**), and behavioral (**109%**). The largest decline in use of medications was G Tube (**-25%**).

The vast majority of type of doses administered to Tennessee students were oral (**63%**) followed by injectable (**16%**) and inhaled (**10%**).

All medications except those designated by an individual healthcare plan (IHP), must be maintained in a secure location under the supervision of a school nurse and/or other school personnel who have been oriented/trained and assigned to handle medications and record keeping per state guidelines. School systems secured medications in a locked cabinet (**97%** of all Tennessee school systems/special schools), locked storage closet/cabinet (**73%** of all Tennessee school systems/special schools), locked desk drawer (**57%** of all Tennessee school systems/special schools) and/or “other” (**43%** of all Tennessee school systems/special schools).

Student Health Screenings

According to the *Tennessee School Health Screening Guidelines*, students in grades PreK, K, 2, 4, 6 and 8 are screened annually for vision and hearing. Students in grades K, 2, 4, 6 and 8 and one year of high school (usually Lifetime Wellness class) are screened annually for blood pressure and body mass index (BMI) in addition to vision and hearing. School staffs are encouraged to screen students for oral health problems and screen 6th grade students for scoliosis. Most school systems/special schools provided vision, hearing, BMI and blood pressure screening for their students. Approximately **50%** of all LEAs/special schools provided scoliosis screening and **43%** provided some type of dental screening.

During the 2011-2012 school year, **1,316,649** student health screenings occurred in Tennessee schools. The most common type of screenings was vision (**27%**), hearing (**23%**) and body mass index (BMI) (**22%**).

During the 2011-2012 school year **74%** of all Tennessee students who were required to receive school health screenings received them. Also, **92%** of all students required to receive a vision screening received one, **77%** received a hearing screening, **66%** received a BMI screen and **62%** received a blood pressure screen.

The percentage of all school health screenings decreased by **7%** from 2008-2009 to 2011-2012. The only screening that increased during this time period was BMI screenings (**1%**). Decreases occurred for scoliosis (**-46%**), dental (**-30%**), vision (**-9%**), hearing (**-7%**) and blood pressure (**-2%**) screenings.

During the 2011-2012 school year, **164,571** student referrals were made to a health care provider as a result of a school health screening. Most referrals were associated with BMI screenings (**49%**), vision screenings (**27%**) and dental screenings (**9%**).

The total number of students referred to health care providers increased **210%** between 2006-2007 and 2011-2012. The most significant increase in referrals from 2006-2007 to 2011-2012 were for BMI (**1,005%**), blood pressure (**590%**) and vision (**127%**). Referrals decreased for scoliosis (**-39%**) and dental (**-8%**).

School Nurses

School systems hire nurses to serve the general and special education student school populations. During the 2011-2012 school year, **1,345** school nurses worked in Tennessee schools. This represents a **24%** increase from the 2006-2007 school year.

Of these, **32** were Master of Science Nurses (MSNs), **318** were Bachelor of Science Nurses (BSNs), **447** were Registered Nurses (RNs) and **548** were Licensed Practical Nurses (LPNs). Also, **86%** of all Tennessee school nurses were hired by the school district as full time employees, **7%** through public health departments, **6%** on an agency contract and **1%** through local hospitals. School systems reported **15%** of all school nurses served special education students and **85%** served the general school population.

During the 2011-2012 school year, **787** schools (or **37%** of all Tennessee schools) used electronic medical records to conduct their work. Electronic medical records systems such as SNAP, STAR Student, HealthOffice, and Powerschool were used most frequently.

There were **2,259,306** student visits to school nurses during the 2011-2012 school year in Tennessee. During these visits **80%** or **1,805,518** school visits resulted in the school nurse attending to student's needs and then sending students back to class for the day. The student return-to-class rate increased from **61.3%** in 2008-2009 to **80%** during the 2011-2012 school year.

LEAs reported **133 out of 136** school systems/special schools meet the requirement for number of nurses per student ratio of 1:3,000. (This calculation does not include nurses who are contracted or hired to provide procedures or treatments only.) Three LEAs did not answer this survey question. Most school systems/special schools in Tennessee are in compliance with the school nurse to student ratio law.

Availability of School Nurses

School health services directors were asked if there was a nurse present all day in schools where a student might need **asthma** medication administered during an emergency situation. **Forty-four percent (62** school systems/special schools) indicated yes while **56% (74** school systems/special schools) reported no.

School health services directors were asked if there was a nurse present all day in schools where a student might need **glucagon** medication administered during an emergency situation. **Fifty-nine percent (79** school systems/special schools) indicated "yes" while **41% (56** school systems/special schools) reported "no".

School health services directors were asked if there was a nurse present all day in schools where a student might need **diastat** medication administered during an emergency situation. **Fifty-five percent (74** school systems/special schools) indicated yes while **45% (61** school systems/special schools) reported no.

First aid was provided to **16,757** students in the absence of a RN nurse in 2011-2012. Of the total number of first aid services provided at schools in the absence of a RN school nurse, **59%** was provided by teachers followed by secretaries (**14%**) and “other” (**13%**).

911 Emergency Calls

During the 2011-2012 school year **4,128** 911 emergency calls were made in Tennessee public schools. Of these calls, **1,594 (39%)** were made when a nurse was in the school building and **2,534 (61%)** were made when a nurse was not in the school building.

504 - Individual Health Care Plans (TCA §49-5-415)

A majority of school districts (**84%**) reported they had developed an individual health plan (IHP) for all students with chronic or long-term illnesses such as asthma, diabetes, seizures, sickle cell anemia, cardiac conditions and severe allergic reactions.

Procedures

During 2011-2012, **10,503** students received a procedure on a daily or routine basis at school from a licensed health care professional. The most frequent procedures performed by licensed health care professionals were: blood glucose monitoring (**19%**), carb counting (**18%**), “other” (**14%**) and diabetes injections (**14%**).

Between 2006-2007 and 2011-2012 the number of procedures performed by licensed health care professionals increased by **36%**.

During 2011-2012, **3,414** students performed their own procedure on a daily or routine basis at school without assistance. The most frequent procedures performed by students without any assistance were: blood glucose monitoring (**29%**), carb counting (**23%**), and diabetes injections (**15%**).

During 2011-2012, **545** students received a procedure on a daily or routine basis at school from an unlicensed health care professional. The most frequent procedures performed by unlicensed health care professionals were blood glucose monitoring (**54%**), carb counting (**28%**), and urine ketone testing (**14%**).

Emergency Procedures

During the 2011-2012 school year, **14,985** students received an emergency procedure in Tennessee schools. Almost all of the emergency procedures were provided to students with asthma (**94%**).

The total number of students receiving an emergency procedure increased by **98%** from 2008-2009 to 2011-2012. The largest area of increase occurred using epi-pens (**233%**), glucagon (**119%**) and diastat (**110%**) as an emergency procedure with students.

The number of emergency procedures performed by licensed health care providers in schools increased **58%** from 2008-2009 to 2011-2012. The only type of procedure that increased during this two year period was asthma (**119%**).

During the 2011-2012 school year, **57,830** emergency procedures were performed in Tennessee schools. The most common type of emergency procedure performed by licensed health care providers involved supporting students with asthma (**96%**).

During 2011-2012, **178** schools experienced emergencies that required the administration of emergency medications at least once during the school year. The most common emergency medicine administered to students was epinephrine (**44%**) followed by diastat (**41%**) and glucagon (**15%**).

Also, **77 out of 137** school systems/special schools report they have a policy that allows trained volunteers to administer Glucagon in schools.

Asthma

During the 2011-2012 school year, there were **63,411** students in Tennessee schools with an asthma diagnosis. Students diagnosed with asthma represent the most common type of chronic illness/disability among Tennessee students (**33% of all diagnoses**). Since 2004-2005 the number of students diagnosed with asthma increased by **64%**.

Of the **63,411** students identified as having asthma, **35,909** students (**57%** of all asthmatic students) had an individual school asthma action plan in place. Also, **55** school districts have adopted a school-wide asthma action plan for all schools (**40%** of all school districts).

Asthma education was provided to **17,279** school personnel and **12,616** students with asthma during the 2011-2012 school year. This represents only **20%** of all Tennessee students diagnosed with asthma.

Allergies

There were **17,122** students diagnosed with allergies in Tennessee schools during the 2011-2012 school year. The most common types of allergies among students were environmental (**31%**), “other (includes allergies)” (**28%**) and “other – food” (**11%**).

From 2010-2011 to 2011-2012 school years, the number of students with allergies increased by **8%**. Shellfish (**41%**), nuts (**30%**) and eggs (**26%**) allergies increased the most from the previous year. Food/Dye allergies decreased by **28%**.

Diabetes

There were **3,704** students in Tennessee schools with a diagnosis of diabetes during the 2011-2012 school year. Of these, **2,810** students or **77%** were diagnosed with Type I diabetes and **858** students or **23%** were diagnosed with Type 2 diabetes. The highest percentage of students diagnosed with diabetes attended high schools (**41%**) followed by middle schools (**25%**) and then elementary schools (**24%**).

The number of students diagnosed with Type I and Type II diabetes in Tennessee schools has increased by **9%** from 2009-2010 to 2011-2012.

School-based Clinics

The number of students served in school clinics increased from **69,305** in 2008-2009 to **122,337** in 2011-2012. This represents a **77%** increase over a three-year period. Also, in 2011-2012, **40,586** student referrals were made

to other health care providers (optometrist, audiologist, pediatrician, etc.) compared to **17,020** referrals in 2010-2011 school year (an increase of **138%**).

The number of school systems/special schools with school-based clinics increased from **12** in 2008-2009 to **21** in 2011-2012 (**75%** increase).

The number of schools with school-based clinics increased from **54** in 2008-2009 to **87** in 2011-2012 (**61%** increase).

Of the **87** schools that provided clinic services in 2011-2012, **54%** used tele-medicine, **62%** provided services to staff as well as students, **51%** provided immunizations and **13%** provided dental services in the clinics.

In 2011-2012, **55,765** EPSDTs (wellness exam) were provided to Tennessee students either by a school clinic practitioner or a private provider in the schools. Of these, **5,497** students received an EPSDT through a school-based clinic and **50,268** students received EPSDT through *Well Child, Inc.* or another private provider at school.

Data Charts

STUDENT DIAGNOSES

Number of Students and Percent of Total by Chronic Illness or Disability Diagnosis 2011-2012

| Chronic Illness or Disability Diagnosis | Number of Students 2011-2012 | Percent of Total |
|--|---------------------------------|------------------|
| Asthma | 63,411 | 33% |
| ADHD/ADD | 39,933 | 21% |
| Other (Cerebral Palsy, Sickle Cell, Cystic Fibrosis) | 25,897 | 14% |
| Severe Allergy | 17,212 | 9% |
| Intellectual Disability | 14,701 | 8% |
| Mental Health | 10,431 | 5% |
| Autism | 6,897 | 4% |
| Seizure Disorder | 6,789 | 4% |
| Diabetes | 3,704 | 2% |
| Total | 188,975 | 100% |

During the 2011-2012 school year, **188,975** students in Tennessee public schools had a chronic illness or disability diagnosis. This represents **19%** of all Tennessee public school students statewide. Of those students with a diagnosis, the most common diagnoses were asthma (**33%**), ADHD/ADD (**21%**), other (cerebral palsy, sickle cell, cystic fibrosis) (**14%**) and severe allergy (**9%**).

Number and Percent Change of Students by Selected Chronic Illness or Disability Diagnosis between 2004-2005 and 2011-2012

| Chronic Illness or Disability Diagnosis | Number of Students 2004-2005 | Number of Students 2011-2012 | Percent Change |
|--|---------------------------------|---------------------------------|----------------|
| Asthma | 38,676 | 63,411 | 64% |
| ADHD/ADD | 19,939 | 39,933 | 100% |
| Other | 14,536 | 25,897 | 78% |

| | | | |
|----------|--------|---------|-----|
| Diabetes | 2,388 | 3,704 | 55% |
| Total | 75,539 | 132,945 | 76% |

The total number of students with selected chronic illnesses or disability diagnoses increased by **76%** between 2004-2005 and 2011-2012. The number of ADHD/ADD diagnoses increased by **100%** in seven years. The number of students diagnosed with asthma increased by **64%** and the number of students diagnosed with diabetes increased by **55%** during the same time period.

HEALTH SERVICES PROVIDED IN SCHOOLS

Types of Health Services Provided in Schools Using Licensed and Unlicensed Health Care Providers and Percent Compared to All Tennessee Schools 2011-2012

| Types of Health Services | Number of schools using Licensed Health Care Providers | % of All TN Schools (N= 2,105) | Number of Schools Using Unlicensed Health Care Providers | % of All TN Schools (N= 2,105) |
|--|--|--------------------------------|--|--------------------------------|
| Emergency Planning With School Staff/Community Partners (EX: member of First Responder Team) | 1,401 | 67% | 591 | 28% |
| Medication Administration | 1,401 | 67% | 959 | 46% |
| Care of Ill/Injured Staff | 1,571 | 75% | 900 | 43% |
| Care of Ill/injured students | 1,574 | 75% | 916 | 44% |
| Training and Supervision of Non-Medical Personnel | 1,620 | 77% | 220 | 10% |
| Vision Screening | 1,239 | 59% | 1,159 | 55% |
| Health Counseling/Referral | 1,565 | 74% | 497 | 24% |
| BMI Screening | 1,197 | 57% | 1,194 | 57% |
| Hearing Screening | 1,234 | 59% | 1,149 | 55% |
| Blood Pressure Screening | 1,423 | 68% | 913 | 43% |
| Health Education for Students | 1,239 | 59% | 858 | 41% |
| Immunization Compliance Monitoring | 1,538 | 73% | 591 | 28% |
| Staff Wellness Activities | 1,247 | 59% | 966 | 46% |
| Nursing Services to Students With Special Needs (IEP) | 1,329 | 63% | 60 | 3% |
| Scoliosis Screening | 300 | 14% | 132 | 6% |
| Dental Screening | 567 | 27% | 68 | 3% |
| Nursing Services to Students With Special Needs (504) | 1,407 | 67% | 77 | 4% |

The most common types of health services provided by licensed health care providers in Tennessee schools include training and supervision of non-medical personnel (**77%** of all schools), care of ill/injured students (**75%** of all schools), care of ill/injured staff (**75%** of all schools) and health counseling referral (**74%** of all schools). The most common types of health services provided by unlicensed health care providers in Tennessee schools include BMI screening (**57%** of all schools), vision screening (**55%** of all schools) and hearing screening (**55%** of all schools).

MEDICATIONS

Type, Number and Percent of Total Self-Administering Medications By Students at School Under the Supervision of Unlicensed School Personnel 2011-2012

| Type of Medicines <u>Self-Administered</u> By Students at School Under the Supervision of Unlicensed School Personnel | Number of Students <u>Self-Administering</u> Medications at School 2011-2012 | Percent of Total |
|--|---|-------------------------|
| Inhalants | 8,726 | 39% |
| Other – Non-Specified Drugs (For example: Tylenol, Advil, Pamprin, Motrin, Tums, Pepcid, Sudafed, Antihistamines) | 5,607 | 24% |
| Topical | 3,978 | 17% |
| Behavioral | 3,287 | 14% |
| Antibiotic | 749 | 3% |
| Seizure Control/Prevention | 299 | 1% |
| Insulin Injection | 268 | 1% |
| Insulin Pump Assistance | 162 | 1% |
| G Tube (any medicine) | NA | NA |
| Diastat | 13 | .01% |
| Total | 23,089 | 100.01% |

During the 2011-2012 school year, **23,089** students self-administered medications while under the supervision of unlicensed school personnel. The most common medications self-administered by students were inhalants (**39%**), other/non- specified drugs (**24%**), and topical (**17%**).

***Type, Number and Percent of Students Receiving Medications
Administered by a Licensed Health Care Professional
2011-2012***

| Type of Medicines | Number of Students Receiving Medication Administered by a Licensed Health Care Professional 2011-2012 | Percent of Total |
|-------------------------|--|------------------|
| Topical | 38,165 | 42% |
| Other | 23,490 | 26% |
| Aerosol | 14,666 | 16% |
| Behavioral | 7,477 | 8% |
| Antibiotic | 3,497 | 3% |
| Insulin | 1,707 | 2% |
| Seizure / Other | 1,044 | 1% |
| Insulin Pump assistance | 966 | 1% |
| Diastat | 405 | .5% |
| G Tube (any medicines) | 254 | .5% |
| Total | 91,671 | 100% |

In 2011-2012, **91,671** students received medication administered by a licensed health care professional. The most common medications administered in schools by a licensed health care professional were: topical (**42%**), other (**26%**), and aerosol (**16%**).

***Type, Number and Percent Change of Students Receiving Medications
Administered by a Licensed Health Care Professional
2004-2005 and 2011-2012***

| Type of Medicines | Number of Students Receiving Medication <u>Administered by Licensed Health Care Professional</u> 2004-2005 | Number of Students Receiving Medication <u>Administered by Licensed Health Care Professional</u> 2011-2012 | Percent Change |
|-------------------------|---|---|----------------|
| Topical | 25,706 | 38,165 | 48% |
| Other | 29,769 | 23,490 | -21% |
| Aerosol | 3,517 | 14,666 | 317% |
| Behavioral | 3,582 | 7,477 | 109% |
| Antibiotic | 2,489 | 3,497 | 40% |
| Insulin | 645 | 1,707 | 165% |
| Seizure / Other | 757 | 1,044 | 38% |
| Insulin Pump assistance | NA | 966 | NA |
| Diastat | NA | 405 | NA |
| G Tube (any medicines) | 339 | 254 | -25% |
| Total | 66,804 | 91,671 | 37% |

The total number of students receiving medication administered by a licensed health care professional increased by **37%** from 2004-2005 to 2011-2012. The largest increase in medications was aerosol (**317%**), insulin (**165%**), and behavioral (**109%**). The largest decline in use of medications was G Tube (**-25%**).

***Total Number of Medication Doses Administered in Tennessee Schools
Daily and As Needed (PRN) (Count Doses for the Year) 2011-2012***

| Type of Medication Administered | Number of Medication Doses Administered Daily | Number of Medication Doses Administered on an as Needed Basis (PRN) | Total Number | Percent of Total |
|---------------------------------|---|---|--------------|------------------|
| Oral | 827,048 | 300,286 | 1,127,334 | 63% |
| Injectable | 276,692 | 14,232 | 290,924 | 16% |
| Inhaled | 81,605 | 101,330 | 182,935 | 10% |
| Topical | 13,887 | 78,700 | 92,587 | 5% |
| Other | 19,846 | 58,242 | 78,088 | 4% |
| GI Tube | 30,386 | 1,400 | 31,786 | 2% |
| Rectal | 173 | 130 | 303 | .02% |
| IV | 4 | 0 | 4 | .0002% |
| Total | 1,249,641 | 554,320 | 1,803,961 | 100.02% |

The vast majority of type of doses administered to Tennessee students were oral (**63%**) followed by injectable (**16%**) and inhaled (**10%**).

Type, Number and Percent of Students Receiving a Health Care Procedure on a Daily or Routine Basis at School from a Licensed Health Care Professional 2011-2012

| Procedure Performed by Licensed Health Care Professional | Number of Students Receiving Procedure on a Daily or Routine Basis at School from Licensed Health Care Professional | Percent of Total |
|--|---|------------------|
| Blood Glucose Monitoring | 1,983 | 19% |
| Carb Counting | 1,857 | 18% |
| Other | 1,471 | 14% |
| Diabetes Injections | 1,463 | 14% |
| Nebulizer Treatment | 1,185 | 11% |
| Urine Ketone Testing | 1,089 | 10% |
| Insulin Pump | 732 | 7% |
| G/T tube feeding | 526 | 5% |
| C.I.C. | 125 | 1% |
| Trach care | 72 | 1% |
| Total | 10,503 | 100% |

During 2011-2012, **10,503** students received a procedure on a daily or routine basis at school from a licensed health care professional. The most frequent procedures performed by licensed health care professionals were: blood glucose monitoring (**19%**), carb counting (**18%**), other (14%) and diabetes injections (**14%**).

Type, Number and Percent Change of Students Receiving a Health Care Procedure on a Daily or Routine Basis at School from a Licensed Health Care Professional 2004-2005 to 2011-2012

| Procedure Performed by Licensed Health Care Professional | # of Students Receiving Procedure on a Daily or Routine Basis at School from Licensed Health Care Professional 2006-07 | # of Students Receiving Procedure on a Daily or Routine Basis at School from Licensed Health Care Professional 2011-12 | Percent Change |
|---|---|---|---------------------------|
| Blood Glucose Monitoring | 2,490 | 1,983 | -20% |
| Carb Counting | 1,532 | 1,857 | 21% |
| Other | 776 | 1,471 | 90% |
| Diabetes Injections | 911 | 1,463 | 61% |
| Nebulizer Treatment | 735 | 1,185 | 61% |
| Urine Ketone Testing | NA | 1,089 | NA |
| Insulin Pump | NA | 732 | NA |
| G/T tube feeding | 867 | 526 | -39% |
| C.I.C. | 287 | 125 | -56% |
| Trach care | 145 | 72 | -50% |
| Total | 7,743 | 10,503 | 36% |

Between 2006-2007 and 2011-2012 the number of procedures performed by a licensed health care professional increased by **36%**.

***Type, Number and Percent of Students Performing
Own Procedure at School Without Assistance 2011-2012***

| Procedure Performed by Student | Number of Students Performing Own Procedure on a Daily or Routine Basis at School Without Assistance | Percent of Total |
|---------------------------------------|---|-------------------------|
| Blood Glucose Monitoring | 1,001 | 29% |
| Carb Counting | 781 | 23% |
| Diabetes Injections | 509 | 15% |
| Urine Ketone Testing | 483 | 14% |
| Insulin Pump | 388 | 11% |
| Nebulizer treatment | 122 | 4% |
| C.I.C. | 68 | 2% |
| Other | 45 | 1% |
| G/T tube feeding | 11 | .5% |
| Trach care | 6 | .5% |
| Total | 3,414 | 100% |

During 2011-2012, **3,414** students performed their own procedure on a daily or routine basis at school without assistance. The most frequent procedures performed by students without any assistance were blood glucose monitoring (**29%**), carb counting (**23%**), and diabetes injections (**15%**).

***Type, Number and Percent of Students Receiving a Health Care Procedure on a
Daily or Routine Basis at School from an Unlicensed Health Care Professional 2011-2012***

| Procedure Performed by Unlicensed Health Care Professional | Number of Students Receiving Procedure on a Daily or Routine Basis at School from Unlicensed Health Care Professional | Percent of Total |
|---|--|-------------------------|
| Blood Glucose Monitoring | 295 | 54% |

| | | |
|----------------------|-----|------|
| Carb counting | 153 | 28% |
| Urine Ketone Testing | 76 | 14% |
| Other | 21 | 4% |
| Total | 545 | 100% |

During 2011-2012, **545** students received a procedure on a daily or routine basis at school from an unlicensed health care professional. The most frequent procedures performed by unlicensed health care professionals were blood glucose monitoring (**54%**), carb counting (**28%**), and urine ketone testing (**14%**).

Number and Type of Personnel Trained Annually to Administer Medications 2011-2012

| Personnel Trained Annually to Administer Medications | Number | Percent of Total |
|--|--------|------------------|
| Teachers | 9,141 | 56% |
| Secretaries | 2,419 | 15% |
| Teaching Assistants | 1,731 | 11% |
| Other | 901 | 5% |
| Principals | 602 | 4% |
| LPN Nurses | 591 | 4% |
| Assistant Principals | 510 | 3% |
| School Counselors | 334 | 2% |
| Nurse Assistants/Health Room Aide | 45 | .3% |
| Total | 16,274 | 100.3% |

The majority of school personnel trained annually to handle medications and record keeping in 2011-2012 were teachers (**56%**) followed by secretaries (**15%**) and teaching assistants (**11%**).

Type of Secured Storage Used for Medications in School Systems 2011-2012

| Type of Secured Storage Used for Medications | Number of School Systems/ Special Schools | Percent of Total Number of School Systems/Special Schools (N=139) |
|--|--|---|
| Locked Cabinet | 135 | 97% |
| Locked Storage Closet or Cabinet | 101 | 73% |
| Locked Desk Drawer | 79 | 57% |
| Other | 60 | 43% |

School systems secured medications in a locked cabinet (**97%** of all Tennessee school systems/special schools), locked storage closet/cabinet (**73%** of all Tennessee school systems/special schools), locked desk drawer (**57%** of all Tennessee school systems/special schools) or “other” (**43%** of all Tennessee school systems/special schools). All medications except those designated by an individual healthcare plan (IHP), must be maintained in a secure location under the supervision of a school nurse and/or other school personnel who have been oriented/trained and assigned to handle medications and record keeping per state guidelines.

SCHOOL NURSES

Type, Number and Method of Funding for School Nurses 2011-2012

| School Nurses | FTE's* Employed by School System/ Special Schools | FTE's Employed by Health Dept. | FTE's Employed by Hospital | FTS's Contracted by Agency | Totals |
|--|--|---|---|---|---------------|
| Master of Science (MSN's) | | | | | |
| General Student Population | 16 | 5 | 1 | 8 | 30 |
| School Nurses | 0 | 2 | 0 | 0 | 2 |
| Special Ed Nurses | | | | | |
| Bachelor of Science (BSN's) | | | | | |
| General Student Population | 255 | 34 | 1 | 12 | 302 |
| School Nurses | 6 | 10 | 0 | 0 | 16 |
| Special Ed Nurses | | | | | |
| Registered Nurses (RN's) | | | | | |
| General Student Population | 334 | 22 | 3 | 31 | 390 |
| School Nurses** | 36 | 13 | 1 | 7 | 57 |
| Special Ed Nurses *** | | | | | |
| Licensed Practical Nurses (LPN's) | | | | | |
| General Student Population | 398 | 3 | 11 | 3 | 415 |
| School Nurses ** | 115 | 1 | 0 | 17 | 133 |
| Special Ed Nurses *** | | | | | |
| Total | 1,160 | 90 | 17 | 78 | 1,345 |

*FTE = Full Time Equivalent (use whole numbers with decimals to show totals for each)

**Basic Education Program (BEP) funds specified, other local, or federal sources used to employ or contract

***Special Education funds used to employ or contract

School systems/special schools hire nurses to serve the general and special education student populations. During the 2011-2012 school year, **1,345** school nurses worked in Tennessee schools. Of these, **32** were Master

of Science Nurses (MSNs), **318** were Bachelor of Science Nurses (BSNs), **447** were Registered Nurses (RNs) and **548** were Licensed Practical Nurses (LPNs). Also, **86%** of all Tennessee school nurses were hired by the LEA as full time employees, **7%** through public health departments, **6%** on an agency contract, and **1%** through local hospitals. School systems reported **15%** of all school nurses served special education students and **85%** of all school nurses served the general school population.

There were **2,259,306** student visits to school nurses during the 2011-2012 school year in Tennessee. During these visits **80%** or **1,805,518** school visits resulted in the school nurse attending to student's needs and then sending students back to class for the day. The student return-to-class rate increased from **61.3%** in 2008-2009 to **80%** during the 2011-2012 school year.

School districts reported that **133 out of 139** school systems/special schools meet the requirement for number of nurses per student ratio of 1:3,000. (This calculation does not include nurses who are contracted or hired to provide procedures or treatments only.) Most school systems in Tennessee are in compliance with this law.

AVAILABILITY OF SCHOOL NURSES

School health services directors were asked if there was a nurse present all day in schools where a student might need **asthma** medication administered during an emergency situation. **Forty-four percent (62** school systems/special schools) indicated "yes" while **56% (74** school systems/special schools) reported "no".

School health services directors were asked if there was a nurse present all day in schools where a student might need **diastat** medication administered during an emergency situation. **Fifty-six percent (74** school systems/special schools) indicated "yes" while **44% (61)** reported "no".

School health services directors were asked if there was a nurse present all day in schools where a student might need **glucagon** medication administered during an emergency situation. **Fifty-one percent (69** school systems) indicated "yes" while **49% (67** school systems) reported "no". **Three** LEAs did not respond to this question.

Number of Non-Nurse School Health Personnel Employed By LEAs 2011-2012 (FTEs)

| Non-Nurse School Health Personnel | FTE's* Employed by School System/ Special School | FTE's Employed by Health Dept. | FTE's Employed by Hospital | FTS's Contracted by Agency | Totals |
|--|---|---------------------------------------|-----------------------------------|-----------------------------------|---------------|
| School Health Aide | 21 | 25 | 0 | 3 | 49 |
| Other Health Professional | 55 | 0 | 8 | 9 | 72 |
| Totals | 76 | 25 | 8 | 12 | 121 |

During the 2011-2012 school year, **49** school health aides and **72** other health professionals worked in Tennessee schools to provide health-related services to students. Most of these professionals were hired by school district/special schools (**63%**) while several were employed by the county health department (**21%**) or contracted via an outside agency (**10%**).

Position of Those Who Provided First Aid at the School in the Absence of the RN Nurse 2011-2012

| Position Title | Total Number in LEAs | Percent of Total Positions |
|------------------|----------------------|----------------------------|
| Teacher | 9,890 | 59% |
| Secretary | 2,256 | 14% |
| Other | 2,224 | 13% |
| Principal | 990 | 6% |
| LPN | 584 | 4% |
| Parent Volunteer | 578 | 3% |
| Health Room Aide | 235 | 1% |
| TOTAL | 16,757 | 100% |

First aid was provided to **16,757** students in the absence of a RN nurse in 2011-2012. Of the total number of first aid services provided at schools in the absence of a RN school nurse, **59%** was provided by teachers followed by secretaries (**14%**) and “other” (**13%**).

***Types of Personnel the School Nurse Directs/Delegates/Trains and Supervises
In the Performance of Skilled Nursing Tasks 2011-2012***

| Types of Personnel the School Nurse Directs/Delegates/Trains and Supervises In the Performance of Skilled Nursing Tasks | Number | Percent of Total |
|---|--------|------------------|
| Teachers | 7,930 | 53% |
| Other | 1,985 | 13% |
| Secretaries | 1,976 | 13% |
| Bus Driver | 865 | 6% |
| Principals | 730 | 5% |
| Parent Volunteer | 585 | 4% |
| LPN Nurses | 567 | 4% |

| | | |
|-------------------------|--------|------|
| Health Room Aide | 195 | 1% |
| Personal Care Attendant | 173 | 1% |
| Total | 15,006 | 100% |

Approximately **53%** of all personnel who the school nurse directs/delegates/trains and supervises in the performance of skilled nursing tasks are teachers followed by “other” (**13%**) and secretaries (**13%**).

504 - Individual Health Care Plans (IHP) (TCA §49-5-415)

During the 2011-2012 school year, **116** school districts (**84%**) reported all students with chronic or long-term illnesses had an individual health care plan (IHP) in place whereas **22** school districts (**16%**) reported they had not provided plans for all applicable students.

911 Emergency Calls

During the 2011-2012 school year **4,128** 911 emergency calls were made in Tennessee public schools. Of these calls, **1,594 (39%)** were made when a nurse was in the school building and **2,534 (61%)** were made when a nurse was **NOT** in the school building.

HEALTH SCREENINGS

According to the *Tennessee School Health Screening Guidelines*, students in grades PreK, K, 2, 4, 6 and 8 are screened annually for vision and hearing. Students in grades K, 2, 4, 6 and 8 and one year of high school (usually Lifetime Wellness class) are screened annually for blood pressure and body mass index (BMI) in addition to vision and hearing. School staffs are encouraged to screen students for oral health problems and screen 6th grade students for scoliosis.

Number of School Systems/Special Schools Providing Health Screening Programs 2011-2012

| Type of Health Screening | Number of School Systems/ Special Schools (N=139) | Percent of Total # of School Systems/Special Schools (N=139) |
|--------------------------|---|--|
| Vision | 136 | 98% |
| Blood Pressure | 132 | 95% |
| Hearing | 132 | 95% |
| Body Mass Index (BMI) | 129 | 93% |
| Scoliosis | 69 | 50% |
| Dental | 60 | 43% |

Most school systems/special schools provided vision, hearing, BMI and blood pressure screening for their students. Approximately **50%** of all school districts/special schools provided scoliosis screening and **43%** of all school districts/special schools provided some type of dental screening.

**Type, Number and Percent of Total
Number of Students Screened 2011-2012**

| Type of Health Screening | Number of Students Screened | Percent of Total Number School Health Screenings |
|--|-----------------------------|--|
| Vision | 359,247 | 27% |
| Hearing | 297,358 | 23% |
| Body Mass Index (BMI) | 292,970 | 22% |
| Blood Pressure | 276,186 | 21% |
| Dental | 75,159 | 6% |
| Scoliosis | 15,729 | 1% |
| Total Number of School Health Screenings | 1,316,649 | 100% |

During the 2011-2012 school year, **1,316,649** student health screenings occurred in Tennessee schools. The most common type of screenings was vision (**27%**), hearing (**23%**) and body mass index (BMI) (**22%**).

**Type, Number and Percent of Students Screened
2008-2009 and 2011-2012**

| Type of Health Screening | Number of Students 2008-2009 | Number of Students 2011-2012 | Percent Change |
|--------------------------|------------------------------|------------------------------|----------------|
| Vision | 395,415 | 359,247 | -9% |
| Hearing | 320,245 | 297,358 | -7% |
| Body Mass Index (BMI) | 289,617 | 292,970 | 1% |
| Blood Pressure | 281,033 | 276,186 | -2% |
| Dental | 107,093 | 75,159 | -30% |
| Scoliosis | 29,173 | 15,729 | -46% |
| Total | 1,422,576 | 1,316,649 | -7% |

The percentage of all school health screenings decreased by **7%** from 2008-2009 to 2011-2012. The only screening category that increased was student BMI screenings (**1%**). Decreases occurred for scoliosis (**-46%**), dental (**-30%**), vision (**-9%**), hearing (**-7%**) and blood pressure (**-2%**) screenings.

***Type, Number and Percent of Total Number of Students
Required to be Screened 2011-2012***

| Type of Student Health Screening | Grades <u>Required</u> to be Screened | Total Number of Students in Tennessee Schools (in these grades) | Number of Students Screened | Percent of Total Number of Students <u>Required</u> to be Screened |
|----------------------------------|---------------------------------------|---|-----------------------------|--|
| Vision | PreK, K, 2, 4, 6, 8 | 388,692 | 359,247 | 92% |
| Hearing | PreK, K, 2, 4, 6, 8 | 388,692 | 297,358 | 77% |
| Body Mass Index (BMI) | K, 2, 4, 6, 8, and 9 | 443,674 | 292,970 | 66% |
| Blood Pressure | K, 2, 4, 6, 8, and 9 | 443,674 | 276,186 | 62% |
| Totals | | 1,664,732 | 1,225,761 | 74% |

During the 2011-2012 school year **74%** of all Tennessee students who were required to receive school health screenings received them. Also, **92%** of all students required to receive a vision screening received one, **77%** received a hearing screening, **66%** received a BMI screen and **62%** received a blood pressure screen.

***Type, Number and Percent of Students Referred to a Healthcare Provider
As a Result of School Health Screening Programs 2011-2012***

| Type of Health Screening | Number of Referral(s) made to a Healthcare Provider | Percent of Total |
|--------------------------|---|------------------|
| Body Mass Index | 79,936 | 49% |
| Vision | 45,206 | 27% |
| Dental | 14,537 | 9% |
| Blood Pressure | 13,632 | 8% |
| Hearing | 10,683 | 7% |
| Scoliosis | 577 | .4% |
| Total | 164,571 | 100.4% |

During the 2011-2012 school year, **164,571** student referrals were made to a health care provider as a result of a school health screening. Most referrals were a result of body mass index (BMI) screenings (**49%**), vision screenings (**27%**) and dental screenings (**9%**).

***Type, Number and Percent of Change for Students Referred to a Health Care Provider
As a Result of School Health Screening Programs 2006-2007 and 2011-2012***

| Type of Health Screening | Number of Referral(s) made to a Health Care Provider 2006-2007 | Number of Referral(s) made to a Health Care Provider 2011-2012 | Percent Change |
|--------------------------|--|--|-------------------|
| Body Mass Index | 7,232 | 79,936 | 1,005% |
| Vision | 19,875 | 45,206 | 127% |
| Dental | 15,757 | 14,537 | -8% |
| Blood Pressure | 1,976 | 13,632 | 590% |
| Hearing | 7,330 | 10,683 | 46% |
| Scoliosis | 939 | 577 | -39% |
| Total | 53,109 | 164,571 | 210% |

The total number of students referred to health care providers increased **210%** between 2006-2007 and 2011-2012. The most significant increase in referrals from 2006-2007 to 2011-2012 were for body mass index (BMI) (**1,005%**), blood pressure (**590%**) and vision (**127%**). Referrals decreased for scoliosis (**-39%**) and dental (**-8%**).

EMERGENCY PROCEDURES

***Type, Number and Percent of Students Receiving Emergency Procedure
By Licensed Health Care Providers in School 2011-2012***

| Emergency Procedure | Number of Students | Percent of Total |
|---------------------|-----------------------|------------------|
| Asthma | 14,014 | 94% |
| Other | 487 | 3% |
| Epi-Pen | 280 | 2% |
| Diastat | 147 | 1% |
| Glucagon | 57 | .3% |
| Total | 14,985 | 100.3 % |

During the 2011-2012 school year, **14,985** students received an emergency procedure in Tennessee schools. Almost all of the emergency procedures were provided to students with asthma (**94%**).

***Type, Number and Percent Change of Students Receiving Emergency Procedures
By Licensed Health Care Providers in School 2008-2009 and 2011-2012***

| Emergency Procedure | Number of Students 2008-2009 | Number of Students 2011-2012 | Percent Change |
|---------------------|---------------------------------|---------------------------------|----------------|
| Asthma | 7,388 | 14,014 | 90% |
| Other | NA | 487 | NA |
| Epi-Pen | 84 | 280 | 233% |
| Diastat | 70 | 147 | 110% |
| Glucagon | 26 | 57 | 119% |
| Total | 7,568 | 14,985 | 98% |

The total percentage of students receiving an emergency procedure increased by **98%** from 2008-2009 to 2011-2012. The largest area of increase occurred using epi-pens (**233%**), glucagon (**119%**) and diastat (**110%**) as an emergency procedure with students.

***Type, Number and Percent of Emergency Procedures by Licensed Health
Care Providers in School 2011-2012***

| Type of Emergency Procedure | Number of Emergency Procedures | Percent of Total |
|-----------------------------|-----------------------------------|------------------|
| Asthma | 55,636 | 96% |
| Other | 1,702 | 3% |
| Epi-Pen | 316 | .5% |
| Diastat | 164 | .3% |
| Glucagon | 12 | .02% |
| Total | 57,830 | 99.82% |

During the 2011-2012 school year, **57,830** emergency procedures were performed in Tennessee schools. The most common type of emergency procedure performed by a licensed health care provider involved asthma (**96%**).

Type, Number and Percent Change of Emergency Procedures by Licensed Health Care Providers in School 2008-2009 and 2011-2012

| Type of Emergency Procedure | Number of Emergency Procedures 2008-2009 | Number of Emergency Procedures 2011-2012 | Percent Change |
|-----------------------------|--|--|----------------|
| Asthma | 25,459 | 55,636 | 119% |
| Other | 4,546 | 1,702 | -63% |
| Diastat | 4,204 | 316 | -92% |
| Epi-Pen | 2,231 | 164 | -93% |
| Glucagon | 183 | 12 | -93% |
| Total | 36,623 | 57,830 | 58% |

The number of emergency procedures performed by licensed health care providers in schools **increased 58%** from 2008-2009 to 2011-2012. The only type of procedure that increased during this two year period was asthma (**119%**).

Number of Schools Administering Emergency Medication At Least Once During the School Year 2011-2012

| Type of Emergency Medication | Number of Schools | Percent of Total |
|------------------------------|-------------------|------------------|
| Epinephrine | 79 | 44% |
| Diastat | 73 | 41% |
| Glucagon | 26 | 15% |
| Total | 178 | 100% |

During 2011-2012, **178** schools experienced emergencies that required the administration of emergency medications at least once during the school year. The most common emergency medicine administered to students was epinephrine (**44%**) followed by diastat (**41%**) and glucagon (**15%**).

Also, **77 out of 137** school systems/special schools report they have a policy that allows trained volunteers to administer glucagon in schools. **Two** school districts did not respond to this question.

When asked if school systems/special schools had developed a policy permitting emergency administration of glucagon by school personnel, **59% (79 school systems)** reported “yes” and **41% (56 school systems)** reported “no”. **One** school district and **three** special schools did not respond to this question.

RESCUE MEDICATIONS

Allergies – Use of Epi-Pens 2009-2010 and 2011-2012

| Types of Epi-Pen Use | 2009-2010 | 2011-2012 | Percent Change |
|---|------------------|------------------|-----------------------|
| Number of students that have Epi-Pens available at schools | 6,230 | 8,328 | 34% |
| Number of students that required administration of the Epi-Pen | 95 | 435 | 358% |
| Number of teachers and staff trained to administer an Epi-pen if needed | 19,240 | 26,433 | 37% |

Type, Number and Percent of Student Allergies 2011-2012

| Type of Student Allergies | Number of Students with Allergies | Percent of Total |
|----------------------------------|--|-------------------------|
| Environmental | 27,194 | 31% |
| Other (Includes Allergies) | 24,626 | 28% |
| Other - Food | 9,162 | 11% |
| Nuts | 9,545 | 11% |
| Insects | 8,014 | 9% |
| Shellfish | 3,181 | 4% |
| Eggs | 2,302 | 3% |
| Latex | 1,854 | 2% |
| Food/Dye | 1,244 | 1% |
| Total | 87,122 | 100% |

There were **87,122** students diagnosed with allergies in Tennessee schools during the 2011-2012 school year. The most common types of allergies among students were environmental (**31%**), “other (includes allergies)” (**28%**) and “other – food” (**11%**).

Type, Number and Percent Change of Student Allergies 2010-2011 and 2011-2012

| Type of Student Allergies | Number of Students with Allergies 2010-2011 | Number of Students with Allergies 2011-2012 | Percent Change |
|-----------------------------|---|---|----------------|
| Environmental | 26,785 | 27,194 | 2% |
| Other (Includes Allergies) | 22,672 | 24,626 | 9% |
| Other - Food | 8,938 | 9,162 | 3% |
| Insects | 7,737 | 8,014 | 4% |
| Nuts | 7,319 | 9,545 | 30% |
| Shellfish | 2,254 | 3,181 | 41% |
| Eggs | 1,831 | 2,302 | 26% |
| Food/Dye | 1,720 | 1,244 | -28% |
| Latex | 1,459 | 1,854 | 27% |
| Total | 80,715 | 87,122 | 8% |

From 2010-2011 to 2011-2012 school years, the number of students with allergies increased by **8%**. Shellfish (**41%**), nuts (**30%**) and eggs (**26%**) allergies increased the most from the previous year. Food/Dye allergies decreased by **28%**.

Seizure Disorders/Diastat Medication 2011-2012

| Number of students that had diastat available at school 2008-2009 | Number of students that had diastat available at school 2011-2012 | Percent Change | Number of students that required administration of diastat 2008-2009 | Number of times diastat was administered at school 2011-2012 | Percent Change |
|---|---|----------------|--|--|----------------|
| 835 | 1,301 | 56% | 87 | 150 | 72% |

In 2011-2012 there were **1,301** students with a seizure disorder diagnosis that had diastat available for use at school compared to **835** students in 2008-2009. This represents a **56%** increase over a four year period.

A total of **151** doses of diastat were administered to students in school systems this year compared to **87** doses in 2008-2009. This represents a **74%** increase over a four year period.

School systems report that **98** school systems (**71%**) have a policy that allows the nurse to administer the first dose of diastat at school; **34** LEAs did not allow nurses to administer the first dose of diastat at school (**24%**) and **7** LEAs did not answer the question (**5%**).

There were **422** students with an order to administer diastat that did not have a full-time nurse assigned to the school compared to **172** students in 2008-2009. In addition, **196** nurses were assigned to a school to serve as a full-time nurse for this student.

During the 2011-2012 school year, **30** students received diastat more than once per year compared to **24** students in 2008-2009.

One hundred twenty-nine out of **139** school systems/special schools called 911 immediately as the standard protocol when diastat was administered compared to **117** school systems in 2008-2009.

Diastat was administered **143** times at school by a nurse, **3** times by a non-nurse and **4** times by parents or guardians during the 2011-2012 school year.

Also, **131** school systems/special schools reported that if a student who has diastat at school has a seizure and no nurse is available to administer the medication, then 911 is called as standard procedure. **Two** LEAs answered “no” and **six** LEAs did not answer the question.

ASTHMA PLANS AND EDUCATION (TCA §49-1-223)

Asthma Plans

During the 2011-2012 school year, **35,909** students were provided an individualized action treatment plan. Also, **55** school systems/special schools developed a system-wide asthma action plan whereas **77** school systems/special schools did not have a system-wide asthma plan. **Seven** school systems did not answer this survey question.

Asthma Education

During 2011-2012 school year, **17,279** teachers, coaches, and other school personnel were trained in asthma education using a formal curriculum. An additional **12,616** asthmatic students received asthma education training in Tennessee public schools.

DIABETES

Number of Students Diagnosed with Type I or Type II Diabetes by Grade Level 2010-2011

| Grade Level | Number of Students Type I Diabetes | Number of Students Type II Diabetes | Total Number of Students Diagnosed with Type I and Type II Diabetes |
|--------------|------------------------------------|-------------------------------------|---|
| Pre-school | 14 | 0 | 14 |
| Kindergarten | 63 | 7 | 70 |

| | | | |
|-------------|-------|-----|-------|
| Grades 1-5 | 834 | 140 | 974 |
| Grades 6-8 | 828 | 274 | 1,102 |
| Grades 9-12 | 1,071 | 437 | 1,508 |
| Total | 2,810 | 858 | 3,668 |

There were **3,668** students in Tennessee schools with a diagnosis of diabetes during the 2011-2012 school year. Of these, **2,810** students or **77%** were diagnosed with Type I diabetes and **858** students or **23%** were diagnosed with Type 2 diabetes. The highest percentage of students diagnosed with diabetes attended high schools (**41%**) followed by middle schools (**25%**) and then elementary schools (**24%**).

***Number of Students Diagnosed with Type I or Type II Diabetes by Grade Level
2009-2010 and 2011-2012***

| Grade Level | Number of Type I and Type II Students 2009-2010 | Number of Type I and Type II Students 2011-2012 | Percent Change |
|--------------|---|---|----------------|
| Pre-school | 23 | 14 | -39% |
| Kindergarten | 98 | 70 | -29% |
| Grades 1-5 | 923 | 974 | 6% |
| Grades 6-8 | 867 | 1,102 | 27% |
| Grades 9-12 | 1,446 | 1,508 | 4% |
| Total | 3,357 | 3,668 | 9% |

The number of students diagnosed with Type I and Type II diabetes in Tennessee schools has increased by **9%** from 2009-2010 to 2011-2012.

Management Tasks for Type 1 Diabetic Students 2011-2012

| Management Tasks for Type I Diabetic Students | Number of Type I Diabetic Students |
|--|---|
| Number of students that required management tasks by a LICENSED health care professional (to provide injections) | 397 |

| | |
|---|--------|
| Number of students that required no assistance with management tasks | 270 |
| Number of students that require assistance by a school staff member (to provide injections) | 334 |
| Number of students managing their own injections but a nurse is required to monitor them at least 2 times per year | 384 |
| Number of students that require minimal (less than 1 time/month) assistance with management of diabetic pumps | 390 |
| Number of students that require management of diabetic pumps by a licensed health care professional | 715 |
| Number of students that require assistance to manage diabetic pumps by a school staff member | 132 |
| Number of students that have Glucagon ordered as an emergency treatment for low blood glucose? | 2,451 |
| Does your LEA have a policy that allows trained volunteers to administer Glucagon? | 77 yes |
| How many students with Type I diabetes have Glucagon available at school? | 2,213 |
| How many schools have a full-time nurse assigned to the school because of a student(s) with Type 1 diabetes? | 221 |
| How many students with Type 1 diabetes require a full-time nurse to be on the premises at all times at that school? | 475 |

During the 2011-2012 school year, **2,317** students with Type 1 diabetes were managed by using a pen/syringe during the school day. An additional **1,237** students with Type 1 diabetes were managed by using pumps.

Management Tasks for Type 2 Diabetic Students 2011-2012

| Management Tasks for Type 2 Diabetic Students | Number of Type II Diabetic Students |
|---|--|
| Number of students that require management tasks by a LICENSED health care professional (to provide injections) | 397 |
| Number of students that require no assistance with injections | 192 |
| Number of students that require assistance by a school staff member | 98 |
| Number of students managed by diet only during the school day (diet or oral meds management) | 595 |
| Number of students managed by oral medication during the school day (diet or oral meds management) | 376 |

SCHOOL-BASED CLINICS

Comparisons Between Various School-Based Clinic Indicators 2008-2009 and 2011-2012

| School-based Clinic Indicators | 2008-2009 | 2011-201 | Percent Change |
|--|-----------|----------|----------------|
| Number of LEAs with school clinics | 12 | 21 | 75% |
| Number of schools with clinics | 54 | 87 | 61% |
| Number students served in school clinics | 69,305 | 122,337 | 77% |
| Number of student referrals to other health care providers | NA | 40,586 | NA |
| Number of EPSDT exams by clinic | NA | 5,497 | NA |
| Number of EPSDT exams by private provider (<i>Well Child Inc.</i> , etc.) | NA | 50,268 | NA |
| Number of school clinics using tele-medicine | NA | 47 | NA |
| Number of school clinics providing dental services | NA | 11 | NA |
| Number of school clinics providing staff services | NA | 54 | NA |
| Number of school clinics providing immunizations | NA | 44 | NA |

The number of students served in school clinics increased by **77%** from **69,305** in 2008-2009 to **122,337** in 2011-2012. Also, in 2011-2012, **40,586** student referrals were made to other health care providers (optometrist, audiologist, pediatrician, etc.) compared to **17,020** referrals in 2010-2011 school year (an increase of **138%**).

The number of school systems with school-based clinics increased from **12** in 2008-2009 to **21** in 2011-2012 (**75%** increase).

The number of schools with school-based clinics increased from **54** in 2008-2009 to **87** in 2011-2012 (**61%** increase).

Of the **87** schools that provided clinic services in 2011-2012, **54%** used tele-medicine, **62%** provided services to staff as well as students, **51%** provided immunizations and **13%** provided dental services in the clinics.

In 2011-2012, **55,765** EPSDTs (wellness exam) were provided to Tennessee students either by a school clinic practitioner or a private provider in the schools. Of these, **5,497** students received an EPSDT through a school-based clinic and **50,268** students received EPSDT through *Well Child, Inc.* or another private provider at school.

CARDIO-PULMONARY RESUSCITATION (CPR) (TCA §49-5-414)

During the 2011-2012 school year, **17,988** full-time school employees were currently certified in CPR. LEAs reported that **131** school systems provided CPR training as a professional development opportunity this past school year (2011-2012). **Six** school systems did not provide CPR training and **two** school systems did not respond.

Type of payment source for training and re-certification in CPR by school systems:

- ◆ Staff incurs cost - **20** school systems
- ◆ LEA incurs cost – **114** school systems

In 2011-2012 school year, **396** schools provided CPR training to students.

Also, **27,818** students received CPR training during the 2011-2012 school year.

